Soil respiration and carbon dynamics under different densities of Shorea peltata Sym. in Tenggaroh Forest Reserve, Malaysia

ABSTRACT

A field experiment was conducted in Tenggaroh Forest to compare soil respiration and carbon dynamic under different densities of Shorea peltata. The objectives of this study were: to investigate soil respiration under different site characteristics of Shorea peltata and to determine the relationship between soil respiration and soil physical properties. Twenty observational plots 50x50 m namely, rare (E1), low (E2), moderate (E3) and high (E4) were established. Each plot was divided into 25 subplots. Five subplots were selected randomly. Soil respiration characteristics were recorded used LCpro+ instrument at 0 to 6 cm depth. The results of soil respiration and carbon dynamics showed significant differences at $P<0.05$ among the groups. Analysis for the relationship between soil respiration and site variables (correlation) showed that the soil temperature, total of carbon, total of nitrogen and available of sulphur were the important factors in the distribution of vegetation in study sites.

Keyword: Soil respiration; Carbon dynamics; Shorea peltata sym; Soil temperature; Nitrogen; Available sulphur